

REMARKS

This is intended as a full and complete response to the Office Action dated March 5, 2008, having a shortened statutory period for response set to expire on June 5, 2008. Please reconsider the claims pending in the application for reasons discussed below.

Claims 15-18, 21-25, 27, and 28 remain pending in the application and are shown above. Claims 15-18, 21-25, 27, and 28 are rejected by the Examiner. Reconsideration of the rejected claims is requested for reasons presented below.

Claims 15-18, 21 and 23-25, 27 and 28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Chiang, et al.* (U.S. Pat. No. 5,817,572, hereinafter "Chiang") in view of *Matsuura* (U.S. Pat. No. 6,124,641, hereinafter "Matsuura") and *Hu, et al.* (U.S. Pat. No. 5,718,967, hereinafter "Hu"). The Examiner asserts that Chiang teaches a method of forming interconnect structure including depositing a series of layers culminating in a photoresist layer, the layers including dielectric layers which may be silicon dioxide, silicon nitride, silicon oxynitride, phosphosilicate glass, borophosphosilicate glass, fluoropolymer, parylene, polyimide, spin-on glass, or a spin-on polymer, using the photoresist layer to form a contact hole, and then forming a third dielectric layer. The Examiner acknowledges that Chiang fails to disclose use of the claimed low dielectric constant materials or forming a low dielectric constant organosilane layer in a plasma-enhanced CVD process from a mixture comprising a methylsilane compound and an oxidizing gas, the carbon content of the low dielectric constant oxidized organosilane layer being from 1% to 50% by atomic weight. The Examiner asserts, however, that Matsuura teaches the low dielectric constant oxidized organosilane layer deposited by PECVD from methylsilane and hydrogen peroxide missing from Chiang, and that it would be obvious to combine the teachings of Matsuura with Chiang to yield the claimed invention. The Applicant respectfully traverses the rejection.

Claim 15 was presented to be within the scope of U.S. Patent No. 6,514,667, cited in the Information Disclosure Statement filed on January 13, 2004, as previously noted in the Comments filed with the aforementioned Information Disclosure Statement. Applicant also notes that Chiang and Matsuura have been discussed and cited before in

the record of this application as grounds for rejection of these claims (see Office Action, November 11, 2007). The Examiner invokes Hu to teach deposition of an organosilicon layer by plasma-enhanced CVD. Applicant notes that Hu teaches deposition of an organosilicon layer from compounds having silicon-oxygen bonds and/or silicon-nitrogen bonds. Hu does not teach deposition of an organosilicon layer from a methylsilane compound by plasma-enhanced CVD. Applicant further submits that Matsuura uses plasma to deposit a silicon oxide layer from TEOS, but avoids using plasma to deposit a layer using methylsilane. Applicant thus submits that one of ordinary skill in the art, upon reading Hu and Matsuura, would be led to avoid using plasma to deposit a layer from a methylsilane compound.

Applicant therefore submits that Chiang, Matsuura, and Hu, alone or in combination, do not teach, show, suggest, or make obvious a method comprising depositing on a substrate a plurality of layers, wherein one or more of the layers is a low dielectric constant oxidized organosilane layer comprising carbon, wherein the low dielectric constant oxidized organosilane layer is deposited in a plasma enhanced process from a mixture comprising a methylsilane compound and an oxidizing gas, the carbon content of the low dielectric constant oxidized organosilane layer is from 1% to 50% by atomic weight, and a top layer of the plurality of layers is a photoresist, as recited by claim 1 and claims dependent thereon. Applicant respectfully requests the rejection be withdrawn.

Claim 22 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Chiang* in view of *Matsuura* and *Hu* as applied to claims 15-18, 21 and 23-25, 27, and 28 and further in view of *Chen* (U.S. Pat. No. 5,970,376, hereinafter "Chen"). Chiang, Matsuura, and Hu are discussed above. Chen does not remedy the deficiency of Chiang, Matsuura, and Hu. Applicant therefore respectfully requests the rejection be withdrawn.

In conclusion, the references cited by the Examiner do not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the Office Action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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